

CHAPTER
9**Chapter Test A***For use after Chapter 9***Find the sum or difference.**

1. $(4a^3 - 4a^2) + (6a^3 + 5a^2)$
2. $(2y^2 - 4y) - (-y^3 + 2)$
3. $(3x^2 + 2x - 2) - (5x^2 - 5x + 6)$
4. $(2h^2 - 7h + 10) + (h^2 + 4h + 7)$

In Exercises 5 and 6, use the following information.

During the period 1990–2002, the average cost D (in dollars) for a new domestic car and the average cost I (in dollars) for a new imported car can be modeled by

$$D = 442.14t + 14,433 \quad \text{and} \quad I = -137.63t^2 + 2705.2t + 15,111$$

where t is the number of years since 1990.

5. Write an equation that gives the total average cost (in dollars) for domestic and imported cars as a function of the number of years since 1990.
6. What was the total average cost for domestic and imported cars in 2000?

Find the product.

7. $n(2n^3 - 3n + 2)$
8. $(2w - 3)(4w - 7)$
9. $(d^2 + 3d + 2)(d + 1)$
10. $(p + 3)(p - 3)$
11. $(t - 4)^2$
12. $(2s - 5)(2s + 5)$

In Exercises 13 and 14, use the following information.

In humans, the gene B is for brown eyes, and the gene b is for blue eyes. Any gene combination with a B results in brown eyes. Suppose the parents have the same gene combination Bb. The Punnett square shows the possible gene combinations of the offspring and the resulting eye color.

		Mother	
		B	b
Father	B	BB	Bb
	b	Bb	bb

13. What percent of the possible gene combinations of the offspring result in blue eyes?
14. Show how you could use a polynomial to model the possible gene combinations of the offspring.

Solve the equation.

15. $(q + 7)(q - 4) = 0$
16. $(4z - 1)(z + 5) = 0$

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____

CHAPTER
9

Chapter Test A *continued*
For use after Chapter 9

Factor out the greatest common monomial factor.

17. $4c^8 - 8c^5$

18. $6f^2g^3 + 12g$

19. $2k^3 + 6k^2 - 14k$

Solve the equation.

20. $3m^2 - 9m = 0$

21. $7u^2 = 3u$

In Exercises 22 and 23, use the following information.

A frog leaps from a lily pad in a pond into the air with an initial vertical velocity of 20 feet per second. The height h (in feet) of the frog can be modeled by $h = -16t^2 + vt + s$ where t is the time (in seconds) the frog has been in the air, v is the initial vertical velocity (in feet per second), and s is the initial height.

22. Write an equation that gives the height of the frog as a function of the time (in seconds) since leaving the lily pad.

23. After how many seconds does the frog land in the water?

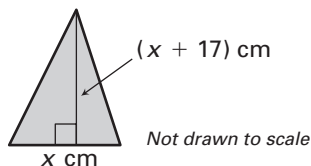
Factor the trinomial.

24. $x^2 + 9x + 14$

25. $y^2 - y - 12$

26. $3m^2 + 20m + 12$

27. Find the dimensions of the triangle that has an area of 30 square centimeters.



Factor the polynomial completely.

28. $3x^3 + 15x^2 + 18x$

29. $2s^2 - 18$

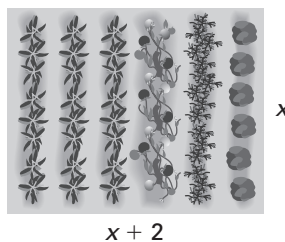
30. $r(r + 3) + 7(r + 3)$

Solve the equation.

31. $b^4 - 3b^3 - 10b^2 = 0$

32. $j(j + 3) = 28$

33. A small vegetable garden has an area of 80 square feet. Its length is 2 feet more than the width. Find the dimensions of the garden.



Answers

17. _____

18. _____

19. _____

20. _____

21. _____

22. _____

23. _____

24. _____

25. _____

26. _____

27. _____

28. _____

29. _____

30. _____

31. _____

32. _____

33. _____